AMENDMENT TO THE CLAIMS

Please replace the presently pending claims with the following amended claims:

1. (Currently Amended)   A method of executing one or more self-tests on a data storage device comprising:

    selecting one or more host programmable tests stored in memory in the data storage device by setting data in a first log in memory of the data storage device, wherein the one or more host programmable tests comprises at least one test of the group consisting of a Position Error Signal (PES) test, a head error rate test, a read verify reserve data track test, a clear logs test, an erase drive test, and a rewrite test;

    setting parameters for execution of the one or more host programmable tests by setting one or more values in a second log in memory of the data storage device;

    executing the one or more host programmable tests on the data storage device; and

    storing results of the one or more host programmable tests in a third log in memory of the data storage device.

2. (Currently Amended)   The method of claim 1, wherein one test of the one or more host programmable tests is a~is the Position Error Signal (PES) test comprising:

    selecting a read/write head of the data storage device and a

track of a storage medium in the data storage device to be tested, the selected track accessible by the selected read/write head;

receiving a host request for servo data from the selected track;

collecting PES data from the selected track while reading the requested servo data; and

storing the collected PES data in a log in memory of the data storage device.

3. (Currently Amended) The method of claim 1, wherein one test of the one or more host programmable tests ~~is a~~ais the head error rate test comprising:

selecting a range of addresses to be tested on a storage medium in the data storage device;

collecting head error rate data for the range of addresses selected; and

storing the head error rate data and a test complete status in a log in memory of the data storage device.

4. (Currently Amended) The method of claim 1, wherein one test of the one or more host programmable tests ~~is a~~ais the read verify reserve data track test comprising:

performing a sector-by-sector read of reserve track data on a storage medium of the data storage device;

determining whether an uncorrectable error has been detected
during the sector-by-sector read of the reserve track
data on the storage medium;

responsive to determining one or more uncorrectable errors
have been detected, storing a number of errors and an
offset value for each error in a log in memory of the
data storage device; and

storing a test complete signal in the log in memory of the
data storage device.

5. (Currently Amended) The method of claim 1, wherein one test
of the one or more host programmable tests ~~is a~~is the clear logs
test comprising:

determining whether a test key stored in a first log of a
plurality of logs in memory of the data storage device
has been set; and

responsive to determining that the test key has been set,
clearing all logs in the plurality of logs in memory of
the data storage device and erasing the test key.

6. (Currently Amended) The method of claim 1, wherein one test
of the one or more host programmable tests ~~is an~~is the erase
drive test comprising:

determining whether a test key stored in a first log in
memory of the data storage device has been set;

determining whether an erase start address and an erase end

address stored in a second log in memory of the data

storage device are within a range of addresses

available on the data storage device; and

responsive to determining that the test key has been set and

the erase start and erase end addresses are within a

range of addresses available on the data storage

device, erasing a storage medium of the data storage

device in the range specified by the erase start and

erase end addresses and erasing the test key.

7. (Currently Amended)   The method of claim 1, wherein one test

of the one or more host programmable tests is a~ais the rewrite

test comprising:

determining whether a test key stored in a first log in

memory of the data storage device has been set;

determining whether a rewrite start address and a rewrite

end address stored in a second log in memory of the

data storage device are within a range of addresses

available on the data storage device; and

responsive to determining that the test key has been set and

the rewrite start and rewrite end addresses are within

a range of addresses available on the data storage

device, rewriting data on a storage medium of the data

storage device with a value stored in a third log in

memory of the data storage device in the range specified by the rewrite start and rewrite end addresses and erasing the test key.

8. (Original) The method of claim 1, wherein executing the one or more host programmable tests on the data storage device comprises executing the one or more host programmable tests in a captive mode.

9. (Original) The method of claim 1, wherein executing the one or more host programmable tests on the data storage device comprises executing the one or more host programmable tests in an offline mode.

10. (Currently Amended) A data storage device comprising:

~~one or more read/write heads;~~

a storage medium ~~accessible by the one or more read/write heads;~~

a processor coupled ~~with the read/write heads~~ to access data on the storage medium; and

a memory connected with and readable by the processor and having stored therein one or more host programmable tests overwritten onto vendor specific portions of a self-monitoring program and executable by the data storage device while the data storage device is

connected with a host.

11. (Original) The data storage device of claim 10, wherein the self-monitoring program is the Self-Monitoring, Analysis, and Reporting Technology (SMART) program.

12. (Currently Amended) The data storage device of claim 10 and further comprising one or more read/write heads, which access the storage medium, wherein one test of the one or more host programmable tests is a Position Error Signal (PES) test comprising:

        selecting a read/write head of the data storage device and a track of the storage medium to be tested, the selected track accessible by the selected read/write head;

        receiving a host request for servo data from the selected track;

        collecting PES data from the selected track while reading the requested servo data; and

        storing the collected PES data in a log in the memory.

13. (Currently Amended) The data storage device of claim 10 and further comprising one or more read/write heads, which access the storage medium, wherein one test of the one or more host programmable tests is a head error rate test comprising:

        selecting a range of addresses to be tested on the storage

medium;

collecting head error rate data for the range of addresses

selected; and

storing the head error rate data and a test complete status

in a log in the memory.

14. (Original) The data storage device of claim 10, wherein one test of the one or more host programmable tests is a read verify reserve data track test comprising:

performing a sector-by-sector read of reserve track data on

the storage medium;

determining whether an uncorrectable error has been detected

during the sector-by-sector read of the reserve track

data on the storage medium;

responsive to determining one or more uncorrectable errors

have been detected, storing a number of errors and an

offset value for each error in a log in the memory; and

storing a test complete signal in the log in the memory.

15. (Original) The data storage device of claim 10, wherein one test of the one or more host programmable tests is a clear logs test comprising:

determining whether a test key stored in a first log of a

plurality of logs in the memory has been set; and

responsive to determining that the test key has been set,

clearing all logs of the plurality of logs in the memory and erasing the test key.

16. (Original) The data storage device of claim 10, wherein one test of the one or more host programmable tests is an erase drive test comprising:

> determining whether a test key stored in a first log in the memory has been set;

> determining whether an erase start address and an erase end address stored in a second log in the memory are within a range of addresses available on the data storage device; and

> responsive to determining that the test key has been set and the erase start and erase end addresses are within a range of addresses available on the data storage device, erasing the storage medium in the range specified by the erase start and erase end addresses and erasing the test key.

17. (Original) The data storage device of claim 10, wherein one test of the one or more host programmable tests is a rewrite test comprising:

> determining whether a test key stored in a first log in the memory has been set;

> determining whether a rewrite start address and a rewrite

end address stored in a second log in the memory are within a range of addresses available on the data storage device; and

responsive to determining that the test key has been set and the rewrite start and rewrite end addresses are within a range of addresses available on the data storage device, rewriting data on the storage medium with a value stored in a third log in the memory in the range specified by the rewrite start and rewrite end addresses and erasing the test key.

18. (Original) The data storage device of claim 10, wherein the one or more host programmable tests are executable in a captive mode.

19. (Original) The data storage device of claim 10, wherein the one or more host programmable tests are executable in an offline mode.

20. (New) A method of executing one or more self-tests on a data storage device comprising:

selecting one or more host programmable tests stored in memory in the data storage device by setting data in a first log in memory of the data storage device;

setting parameters for execution of the one or more host programmable tests by setting one or more values in a

second log in memory of the data storage device;

executing the one or more host programmable tests on the data storage device in a captive mode in which host-initiated commands are ignored; and

storing results of the one or more host programmable tests in a third log in memory of the data storage device.